

AMENDMENT UNDER 37 C.F.R. §-1.111
U.S. Appln. No. 09/732,787

REMARKS

Claims 1-4 are all the claims pending in the application. The Office Action requires Applicant to elect between Group I, claims 1-3, and Group II, claim 4. During a telephone conversation on April 9, 2001, a provisional Election was made without traverse to prosecute the invention of Group II, claim 4. Affirmation of this Election is hereby made.

The Examiner has objected to the specification, alleging that the reference character 6 at page 2, lines 5 and 14, has been used to designate both the arrows and the molten molding resin. The specification is amended to overcome this objection.

The Examiner has objected to the drawings stating that Fig. 2A should have section line 2B-2B, and Fig. 4 should have section lines 5A-5A and 5B-5B. Figs. 2A and 4 are amended as suggested by the Examiner.

The Examiner also objected to the drawings because they include the reference 22, not mentioned in the description. Included with this response is a Request For Approval of Proposed Drawing Corrections in which the designator 22 is deleted from Figs. 1, 3 and 4. Finally, the Examiner states that Fig. 6 should be designated by a legend such as --Prior Art--.¹ In the Request For Approval of Proposed Drawing Corrections, Fig. 6 is labeled Prior Art.

Claim Rejection Under 35 U.S.C. § 102

Claim 4 is rejected under 35 U.S.C. § 102(e) as being anticipated by Shimojyo (U.S. Pat. No. 5,993,256). Applicant respectfully traverses this rejection.

¹ In the Office Action the Examiner identified Fig. 2 as requiring the designation --Prior Art--. However, it is believed that the Examiner intended to refer to Fig. 6.

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Claim 4 specifies that the terminal connecting portion of a sheathed wire includes a fusiform molded portion which covers and waterproofs the terminal connecting portion. The Examiner cites element 49 of Shimojyo as disclosing a fusiform molded portion which covers and waterproofs the terminal connecting portion. Applicant submits, however, that the portion 49 is not fusiform. Referring to Fig. 6, element 49 is slightly tapered at the right of the figure. However, at the left of the figure element 49 is not tapered, but instead is shaped as a right angle. Therefore, element 49 is not tapered at both ends and consequently does not meet the definition of fusiform, which requires tapering at both ends.

Examples of advantages of fusiform shaped molding resin are provided at page 9, lines 19-24. At least because Shimojyo does not teach the claimed fusiform molded portion, Applicant submits that this reference does not anticipate claim 4. Additionally, since there is no suggestion of a fusiform molded portion, this reference does not render obvious the invention defined by claim 4.

Claim 5 is added by this Amendment. This claim specifies that the thickness of the sheathed wire side of the fusiform molded portion is continuously reduced such that an end portion thereof has a dimension the same as a diameter of the sheathed wire. Shimojyo does not disclose this feature, but instead shows a thickness dimension larger than the diameter of the sheathed wire (i.e., a stepwise configuration).

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

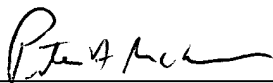
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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

Page 1, third paragraph:

For example, a grounding terminal fitting described in Japanese Patent Publication No. 10-289745A is waterproofed by covering a thermally shrinkable tube on the bare conductors of the terminal connecting portion, and heating to deposit it thereon. Further, such a technique is obviously known as a connecting plate for a battery holder set forth in Japanese Patent Publication No. 11-120986A, in which the terminal connecting portion is covered with a molding resin to provide the water proofing in wiring to an electric source of an electric vehicle, said terminal connecting portion being attached under pressure with a terminal fitting on a bare conductor.

Page 2, second paragraph:

A molding die 1 comprises an upper mold 2 and a lower mold 3, which are provided at interiors with a molding part 4 being a molding cavity, and a molten molding resin [shown with arrows] 6 is injected to [pour] flow as indicated by the arrows into said interior from a runner channel 5 of an injecting gate. At the interior of the mold 4, bare conductors 7a stripped by [peering] peeling a front end part of the sheathed wire 7 are crimped with a terminal fitting 8 by caulking, and the thus formed terminal connection is set for positioning as a whole body excepting the only front end connecting portion of a terminal fitting 8.

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However, the elastic lid plate 9 serves to stop the molding resin 6 from flowing out, and at the same time serves to hold the sheathed wire 7 to press it down, but being the rubber material, the following problems are present.

Page 3, second paragraph:

A further problem is, which is as apparent[ly] from Fig. 6, that one side (right side in the figure) of the molding part 4 is substantially perpendicular to the elastic lid plate 9, and a rear part of the terminal connecting portion covered thereat is naturally formed to be upright. Therefore, if the sheathed wire 7 is bent, peeling instantly starts at the rear part of the terminal connecting portion.

Page 3, third paragraph:

It is accordingly an object of the invention to provide a waterproofing apparatus for a terminal connecting portion of the sheathed wire effective [to] for prevention of peeling a resin by improving a shape of a molding part as the molding cavity of the die which composes the essential parts of the apparatus so as to prevent leakage of the molding resin from the molding part, accelerating to cool and harden the molding resin for realizing to leave from the die at earlier period of time so as to improve productivity, and forming the rear part of the terminal connection to be a suitable shape after molding to cover the resin.

Page 10, first paragraph:

As [apparently] is apparent from Fig. 4 and Figs. 5A, 5B, in the terminal connecting portion waterproofed in the embodiment, the caulking parts 23, 24 of the bare conductors 11 at the front end of the sheathed wire 10 and the terminal fitting 20 are covered with the molding resin 30 [almost all]over almost the entire terminal connecting portion after the waterproofing treatment, excepting the connecting part 21 at the front end of the terminal fitting 20, and the desired waterproofing is treated.

Second paragraph:

The deposited molding resin 30 is not upheaved but uniform in any parts caulked by the caulking parts 23, 24 and also [allover] all over the bottom surfaces 23a, 24a of the caulked parts 23, 24. In short, the molding resin 30 is fully deposited to cover the three sides of the upper side and both sides of the terminal connecting portion, and a part of the molding resin 30a goes around both respective sides of the caulked bottom surfaces 23a, 24a. But thickness of such a part of the molding resin going around the bottom surface and deposited is a flat surface to an extent of not exceeding a highest part of the caulked bottom surfaces 23a, 24a.

IN THE CLAIMS:

The claims are amended as follows:

4. (Amended) A terminal connecting portion of a sheathed wire [which is waterproofed by the waterproofing apparatus as set forth in any of claims 1 to 3], comprising a fusiform molded portion which covers and waterproofs the terminal connecting portion in which a terminal fitting and a bare conductor of the sheathed wire are connected with each other.

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NEW CLAIM 5 HAS BEEN ADDED

--5. The terminal connecting portion as set forth in claim 4, wherein a thickness of the sheathed wire side of the fusiform molded portion is continuously reduced such that an end portion thereof has a dimension the same as a diameter of the sheathed wire.--